

We claim:

1. A method of treating a bone morphogenetic protein (BMP)-related disorder or condition, comprising administering a BMP antagonist to a subject suffering from a BMP-related disorder or condition, wherein the BMP-related disorder or condition is treated.
2. The method of claim 1, wherein the BMP-related disorder or condition is heterotopic cranial synostosis, fibrodysplasia ossificans progressiva (FOP), or sclerostosis.
3. The method of claim 1, wherein the BMP antagonist is a protein or a nucleic acid molecule encoding a BMP antagonist.
4. The method of claim 3, wherein the BMP antagonist is a protein.
5. The method of claim 4, wherein the BMP antagonist is human noggin (hNOG) (SEQ ID NO:2), variant, or a fragment thereof capable of acting as a BMP antagonist.
6. The method of claim 5, wherein the hNOG variant is a deletion mutant.
7. The method of claim 6, wherein the hNOG variant is hNOG Δ B2 (SEQ ID NO:10).
8. The method of claim 3, wherein the nucleic acid molecule encodes noggin or a noggin mutein.
9. The method of claim 8, wherein the nucleic acid molecule encodes one of SEQ ID NO:2 or SEQ ID NO:10.
10. A method of blocking biological activity of a bone morphogenetic protein (BMP) in a subject, comprising administering an agent capable of blocking BMP biological activity.
11. The method of claim 10, wherein the BMP-related disorder or condition is heterotopic cranial synostosis (HO) or fibrodysplasia ossificans progressiva (FOP).

12. The method of claim 11, wherein the BMP antagonist is a protein or a nucleic acid molecule encoding a BMP antagonist.
13. The method of claim 12, wherein the BMP antagonist is a protein.
14. The method of claim 13, wherein the BMP antagonist is human noggin (hNOG) (SEQ ID NO:2), variant, or a fragment thereof capable of acting as a BMP antagonist.
15. The method of claim 14, wherein the hNOG variant is a deletion mutant.
16. The method of claim 15, wherein the hNOG variant is hNOG Δ B2 (SEQ ID NO:10).
17. The method of claim 12, wherein the nucleic acid molecule encodes noggin or a noggin mutein.
18. The method of claim 17, wherein the nucleic acid molecule encodes one of SEQ ID NO:2 or SEQ ID NO:10.
19. A pharmaceutical composition comprising a protein comprising SEQ ID NO:10 and a pharmaceutically acceptable carrier.
20. A method of inhibiting the progress of a bone morphogenetic protein (BMP)-related disorder or condition, comprising administering the pharmaceutical composition of claim 19 to a subject suffering from a BMP-related disorder or condition, wherein the BMP-related disorder or condition is treated.